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An Analytical Platform to improve the traders' decision

Production/Consumption forecast

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AI will not replace traders but
traders with AI will replace traders

-Marcel Salathé

The goal

Improving traders' daily
decisions by interacting
with AI



Why develop such a platform ?

Most of short-term traders' decisions are already based on data analysis

- Load curve forecast / production planning / intraday adjustments

Most DSOs work with suboptimal program (Excel, Matlab, etc.)

- Excel is good for minor adjustments
- Matlab is built for numerical analysis and physical simulation
- Python is the state-of-the art tool for data science

Lot of DSOs underestimate the power of tailor-made AI

- Tailor-made AI saves time and money, offers more accurate forecasts and provides explanations of the forecasts
- Traders are strong but traders + AI together are excellent

Features examples

Descriptive features

- Consumption and production values/errors in different perspectives
- Costs due to forecasting errors

Explanatory features

- Impact of weather forecasts variation on consumption
- Reliability of different forecasts

Predictive features

- Load curves consumption forecasts in day-ahead / intraday
- Hydraulic/solar production forecasts in day-ahead / intraday (coming soon)

Load curves view

Analyse quotidienne

Day ahead

Coûts day ahead

Intraday

Enerdis

Apports d'eau

Documentation

Day Ahead

date début

29.04.2021 00:00

date fin

09.05.2021 23:00

date de position

09.05.2022 13:42

Calculer

Consommation en MW



MAPE

Traders: 3.61%

Belvis NN: null%

Polynomial: null%

SSDI: 3.22%

AVG(SSDI, Traders): 3.22%

MSE

Traders: 9.99

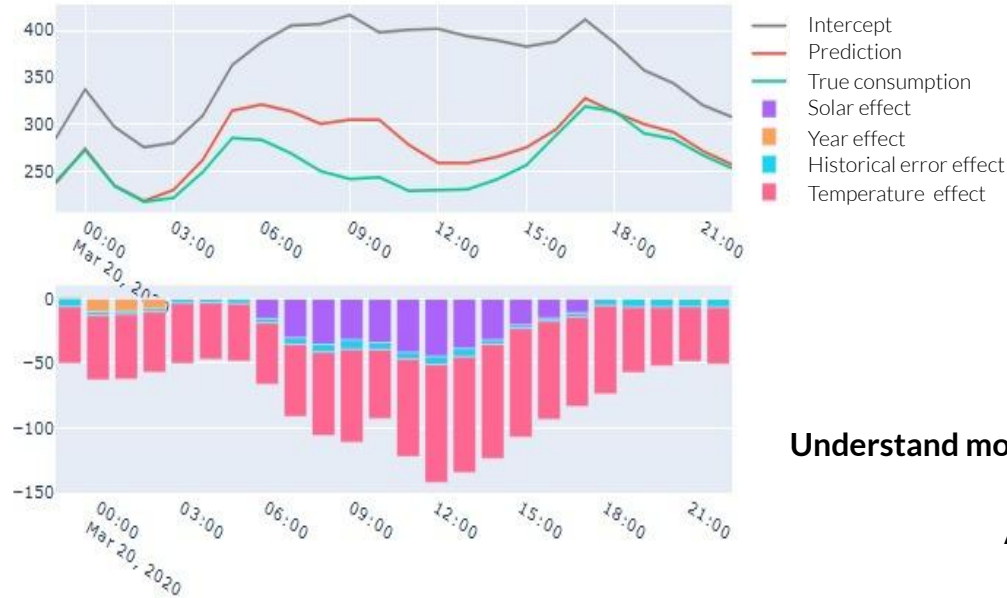
Belvis NN:

Polynomial:

SSDI: 9.42

AVG(SSDI, Traders): 9.08

Weather impact on load curve forecast



- Grey: consumption without external effects
- Pink: temperature effect
- Purple: solar effect
- Orange: year effect

Understand model prediction by analysing the effect of input variables.

Adapt it with your human brain and guts.

Main benefits

- Best use of human added-value
- Load curve forecast improvement
 - Benchmark at ~10%
 - Production at ~15%
 - Human-AI interaction at ~20%
- Centralized informations

More than 300'000 CHF of savings a year for a 300MW at peak DSO.

Take home message

in three points

- Don't be the Kodak of DSOs, work with new technologies and surround yourself with data experts.
- AI is the next step but Human-AI interaction is the future.
- Want to try it ? Call us!

Thank you for your attention

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